ABSTRACT:

The comparison of the efficiency of some natural products (natural honey, vanillin and tapioca starch) on corrosion inhibition of Al-Mg-Si alloy is investigated in seawater solution at room temperature, using potentiodynamic polarization (PP), linear polarization resistance (LPR), and electrochemical impedance spectroscopy (EIS) measurements. The evolution of the corrosion potential (Ecorr) and corrosion current density (icorr) obtained from Tafel extrapolation of polarization curves, and the polarization resistance (Rp) values determined from LPR and EIS measurements indicate that the corrosion rates of Al-Mg-Si alloy decrease with the increasing the natural products concentration. In all cases, the increasing order of inhibition efficiency is: Natural honey < Vanillin < Tapioca starch.